

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (currently amended) A superconducting line connection structure for connecting two or more superconducting lines, wherein the superconducting line connection structure comprises superconductor powder comprising magnesium diboride present between said superconducting lines, and wherein a superconducting filament enclosed in each said superconducting line is directly in contact with said superconducting powder at least on some portion of the contact surface between said superconducting line and said superconducting powder.

2. (previously presented) A superconducting line connection structure according to Claim 1, further comprising a metal powder or an alloy powder in a mixture with the superconducting powder between said superconducting lines.

3. (previously presented) A superconducting line connection structure according to Claim 1, wherein the average particle size of said superconducting powder is 20 microns or less.

4. (previously presented) A superconducting line connection structure according to Claim 1, wherein said superconducting lines and said superconducting powder are enclosed in a coating material made of a pure metal of gold, silver, copper, platinum, palladium, aluminum, niobium, lead, tin, magnesium, indium, tungsten, cobalt, nickel, iron, tantalum or chromium, or an alloy containing at least one of said metals.

5. (cancelled)

6. (previously presented) A superconducting line connection structure according to Claim 1, wherein the density of said superconducting powder is 50 % or more of theoretical density.

7-10. (cancelled)

11. (previously presented) A superconducting line connection structure ~~according to Claim 1, for connecting two or more superconducting lines, wherein the superconducting line connection structure comprises superconductor powder comprising magnesium diboride present between the superconducting lines, and wherein the each superconducting line to be connected is a superconducting stranded wire formed by twisting multiple superconducting lines.~~

12. (original) A superconducting line connection structure according to Claim 11, characterized in that said superconducting stranded wire is a superconducting stranded wire inside a cable-in-conduit type forcibly cooled superconductor.

13. (previously presented) A superconducting magnet apparatus comprising a superconducting line connection structure according to Claim 1.

14. (currently amended) A superconducting magnet apparatus ~~characterized by~~ comprising a superconducting line connection structure manufactured by intervening superconducting powder comprising magnesium diboride between at least two superconducting lines, wherein heat treatment of said electrical connection structure is not conducted in the method for producing a superconducting line connection structure according to Claim 7.

15. (previously presented) A superconducting line comprising a superconducting line connection structure according to Claim 1.

16. (previously presented) A superconducting line structure according to Claim 2, wherein the metal powder or alloy powder has a melting point lower than the superconducting powder.

17. (previously presented) A superconducting line connection structure according to Claim 2, wherein said superconducting lines and the mixture of superconducting powder and metal powder or alloy powder are enclosed in a coating material made of a pure metal of gold, silver, copper, platinum, palladium,

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aluminum, niobium, lead, tin, magnesium, indium, tungsten, cobalt, nickel, iron,
tantalum or chromium, or an alloy containing at least one of said metals.

18-19. (cancelled)